

AMENDMENTS TO THE CLAIMS

1. (Original) An inspection method for a flat display device, comprising:

scanning signal wires by using a magnetic sensor along a scan direction crossing a plurality of the signal wires; and

detecting at least one of a short or an open circuit in the signal wires based on a current of the signal wires detected by the magnetic sensor.

2. (Original) The inspection method according to claim 1, wherein detecting the short on the signal wires includes:

supplying a first common voltage to one side of odd-numbered signal wires within the plurality of signal wires;

supplying a second common voltage different from the first common voltage to one side of even-numbered signal wires within the plurality of signal wires; and

maintaining the other side of each of the signal wires in an insulated state.

3. (Original) The inspection method according to claim 1, wherein detecting the short on the signal wires includes:

detecting a short point by scanning the shorted signal wires along a second scan direction identical with a longitudinal direction of the signal wires.

4. (Original) The inspection method according to claim 1, wherein detecting the open circuit on the signal wire includes:

supplying a first common voltage to one side of odd-numbered signal wires;
supplying a second common voltage different from the first common voltage to one side of even-numbered signal wires; and
shorting the other side of each of the signal wires.

5. (Original) An inspection method, which comprises:

providing a flat display device having at least one of first signal wires and at least one of second signal wires stacked on the first signal wire, and an insulation layer is located between the first and the second signal wires;

scanning the second signal wires along a first scan direction crossing the first signal wires and a second scan direction crossing the second signal wires by using a magnetic sensor; and

detecting an interlayer short on the signal wires based on a current of the signal wires detected by the magnetic sensor.

6. (Original) The inspection method according to claim 5, further comprising:

supplying a first common voltage to one side of the first signal wires;
supplying a second common voltage different from the first common voltage to one side of the second signal wires; and

maintaining an other side of each of the first and the second signal wires in an insulated state.

7. (Previously Presented) An inspection method for a flat display device, comprising:

scanning signal wires by using a magnetic sensor along a scan direction proceeding in a zig-zag pattern; and

detecting a short in the signal wires based on a current of the signal wires detected by the magnetic sensor.

8. (Previously Presented) The inspection method according to claim 7, further comprising:

supplying a first common voltage to one side of a first signal wire of adjacent signal wires;

supplying a second common voltage different from the first common voltage to one side of a second signal wire adjacent to the first signal wire; and

maintaining the other side of each of the signal wires in an insulated state.

9. (Original) An apparatus for inspecting a flat display device, comprising:

a magnetic sensor for scanning on signal wires along a scan direction crossing a plurality of the signal wires; and

a detection circuit for detecting at least one of a short or an open circuit on the signal wires, the detection circuit being formed based on current of the signal wires detected by the magnetic sensor.

10. (Original) The apparatus according to claim 9, wherein the magnetic sensor comprises one of an inductive sensor, a giant magneto-resistance sensor, a magneto-resistance sensor, a tunneling magneto-resistance sensor or a fluxgate sensor.

11. (Previously Presented) The apparatus according to claim 9, further comprising:

a first power supply for supplying a first common voltage to one side of odd-numbered signal wires; and

a second power supply for supplying the second common voltage different from the first common voltage to one side of even-numbered signal wires.

12. (Original) The apparatus according to claim 11, wherein an other side of each of the signal wires is maintained in an insulated state during a short inspection of the signal wires.

13. (Original) The apparatus according to claim 9, wherein the magnetic sensor performs a secondary scanning on at least one of the shorted signal wires

along a second scan direction parallel with a longitudinal direction of the signal wires to locate a shorted point.

14. (Original) The apparatus according to claim 11, wherein an other side of each of the signal wires is shorted upon an open circuit inspection of the signal wires.

15. (Original) An inspection apparatus for a flat display device having at least one of a first signal wire, an insulation layer over the first signal wire, and a second signal wire over the insulation layer, the inspection apparatus comprising:

a magnetic sensor for scanning the first and the second signal wires along a first scan direction crossing the first signal wire and a second scan direction crossing the second signal wire; and

a detection circuit for detecting an interlayer short in the signal wires based on a current of the signal wires detected by the magnetic sensor.

16. (Original) The inspection apparatus according to claim 15, wherein the magnetic sensor is one of an inductive sensor, a giant magneto-resistance sensor, a magneto-resistance sensor, a tunneling magneto-resistance sensor or a fluxgate sensor.

17. (Previously Presented) The inspection apparatus according to claim

15, further comprising:

a first power supply for supplying a first common voltage to one side of the first signal wire; and

a second power supply for supplying a second common voltage different from the first common voltage to one side of the second signal wire.

18. (Original) The inspection apparatus according to claim 17, wherein an other side of each of the first and the second signal wires is maintained in an insulated state.

19. (Original) An inspection apparatus for a flat display device, comprising:

a magnetic sensor for scanning signal wires along a scan direction proceeding in a zig-zag pattern between adjacent signal wires; and

a detection circuit for detecting a short on the signal wires based on a current of the signal wires detected by the magnetic sensor.

20. (Original) The inspection apparatus according to claim 19, wherein the magnetic sensor is one of an inductive sensor, a giant magneto-resistance sensor, a magneto-resistance sensor, a tunneling magneto-resistance sensor or a fluxgate sensor.

21. (Original) The inspection apparatus according to claim 19, further comprising:

a first power supply for supplying a first common voltage to one side of a first signal wire of the adjacent signal wires; and

a second power supply for supplying a second common voltage different from the first common voltage to one side of a second signal wire adjacent to the first signal wire.

22. (Original) The inspection apparatus according to claim 21, wherein an other side of each of the signal wires is maintained in an insulated state.

23. (New) The inspection method according to claim 1, wherein the magnetic sensor has a gap that is less than a width of the signal wires.

24. (New) The inspection method according to claim 5, wherein the magnetic sensor has a gap that is less than a width of the signal wires.

25. (New) The apparatus according to claim 9, wherein the magnetic sensor has a gap that is less than a width of the signal wires.

26. (New) The apparatus according to claim 15, wherein the magnetic sensor has a gap that is less than a width of the signal wires.